

I claim:

1. (New) An aircraft with integrated propulsion/control comprising: an airframe, an onboard primary power source producing compressed air, optionally comprising an alternative source of oxidizing element(s), said airframe optionally comprising a heat shield or reflective layer on the underside thereof and further comprising at least two fully rotatable thrust producing modules, interchangeably referred to hereafter as thrust producing modules or fully rotatable thrust producing modules, disposed peripherally on said airframe, each said thrust producing module connected to said power source for receiving a flow of said compressed air, each said thrust producing module optionally being capable of substituting, or supplementing, said optional alternative oxidizing element(s) in place of, or in addition to, said compressed air, each said thrust producing module connected to a fuel source, each said thrust producing module attached to a respective thrust producing module support structure, each said support structure configured with directionally variable means for varying the rotational plane and, therefore, the thrust angle of said thrust producing module with respect to the roll axis of said aircraft, each said thrust producing module having a variably sized exhaust outlet, all said thrust producing modules being connected to a common controller for coordinated control of said aircraft.

2. (New) An aircraft according to claim 1, each said thrust producing module having a combustion area capable of utilizing a compressed air and fuel mixture, or said optional alternative oxidizing element(s) to either replace said compressed air during exoatmospheric operation, or to optionally supplement said compressed air during atmospheric operation such that additional said fuel may be combined and burned within said thrust producing module's said combustion area thereby further increasing thrust output, tolerable due to the absence of relatively heat sensitive turbine blades within said thrust producing modules thereby allowing for an increase in the thermal value and relative pressure of exhaust gases produced within each said thrust producing module at the combustion area as opposed to and differentiated from an afterburner which by definition occurs in an area subsequent to the initial combustion area, subsequent to the turbine blades and prior to the exhaust outlet as would be required within a conventional turbo-jet engine, each said thrust producing module having a said exhaust piston, the position of said exhaust piston being adjustable with relation to said exhaust outlet of said thrust producing module enabling the area of said exhaust outlet to be variable, and further comprising a means by which electricity is produced locally within each said thrust producing module generating enough power to meet its own energy needs.

3. (New) An aircraft according to claims 1 and 2, optionally being capable of both atmospheric and exoatmospheric flight.

4. (New) An aircraft according to claims 1 and 2, optionally being a trans-atmospheric craft hereafter referred to as a flying craft therein encompassing both possible manifestations as either aircraft, or trans-atmospheric craft.

5. (New) A flying craft according to claim 1, having said directionally variable means for varying the said rotational plane and, therefore, said thrust angle of said thrust producing modules with respect to said roll axis of said flying craft, said flying craft comprising a first

rotatable joint perpendicular to said roll axis of said flying craft permitting said thrust producing modules to rotate over a range of up to 360 degrees, and a second rotatable joint parallel to said roll axis of said flying craft and proximate said flying craft permitting a change in said rotational plane of said thrust producing modules over a range of up to 180 degrees.

6. (New) A flying craft according to claim 5, equipped with said thrust producing modules, each said thrust producing module individually being capable of applying said thrust to the pitch axis, said roll axis, or the yaw axis, or to said yaw and said roll axes concurrently, or to said pitch and said yaw axes concurrently, or to said pitch and said roll axes concurrently, or to said pitch, said roll, and said yaw axes concurrently, the ratio of said thrust applied to any one or combination of the three said axes, or to all three said axes, with relation to said flying craft, is dependent upon said rotational plane of said thrust producing modules as well as the extent to which said thrust producing modules are rotated.

7. (New) A flying craft according to claim 6, requiring no additional control apparatuses such as ailerons, elevators, rudders, canards, or specialized directional thrusters (in the case of exoatmospheric operation) for the efficient and stable propulsion and control of said flying craft both within and beyond the atmosphere.

8. (New) A flying craft according to claim 2, each said thrust producing module having the means to vary the said area of its said exhaust outlet and to manipulate said thrust so as to vary the balance of the exhaust escape velocity versus the exhaust escape mass such that thrust utilization is maximized over the full spectrum of operational requirements (i.e. power to speed).

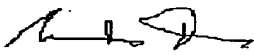
9. (New) A flying craft comprising a center of rotation common to said pitch, roll and yaw axes, when configured in its preferred embodiment as illustrated within the drawings of this application, and further comprising a cockpit located proximate said center of rotation.

10. (New) A flying craft according to claims 6 and 8, capable of counteracting the accumulated force of forward momentum so as to enable the execution of stable, high speed, acutely angled maneuvers, with rapid acceleration recovery, and without necessitating a reorientation of said flying craft with respect to its said roll axis.

11. (New) A flying craft with said integrated propulsion control, said integrated propulsion control being a variably angled propulsion/steering system comprising: an airframe (such term used without respect to the environment in which said flying craft is to operate), a said onboard primary power source producing said compressed air, optionally comprising a said alternative source of oxidizing element(s), said airframe optionally comprising a said heat shield or said reflective layer on the underside thereof and further comprising at least two, or more - preferred embodiment being four - said fully rotatable thrust producing modules disposed peripherally on said airframe, each said thrust producing module connected to said power source, said power source having a means of delivering a variable flow of said compressed air to each said thrust producing module, each said thrust producing module optionally being capable of substituting, or supplementing, said optional alternative oxidizing element(s) in place of, or in addition to said compressed air at the point of

combustion within said thrust producing module, each said thrust producing module connected to a said fuel source, said fuel source being capable of delivering a variable flow of said fuel proportionate to the amount of said compressed air, or said compressed air with said additional optional alternative oxidizing element(s), or said optional alternative oxidizing element(s), each said thrust producing module attached to a respective said thrust producing module support structure, each said support structure configured with said rotatable joints for varying the said rotational plane and, therefore, the said thrust angle of each said fully rotatable thrust producing module up to 180 degrees with respect to said roll axis of said flying craft, each said thrust producing module being fully rotatable along an axis perpendicular with respect to said roll axis of said flying craft and having a said variably sized exhaust outlet, each said thrust producing module capable of simultaneously applying thermally optimized thrust, the exhaust mass/escape velocity ratio of which being optimally apportioned by virtue of the position of said exhaust piston within said thrust producing module, towards the functions of propulsion, control, and stabilization, all said thrust producing modules being connected to a said common controller for coordinated control of said flying craft, said flying craft comprising a said center of rotation common to said pitch, roll and yaw axes, and said cockpit located proximate said center of rotation.

Thank you for your attention to, and consideration of the above matter.

A handwritten signature in black ink, appearing to read 'Ricardo A. Ducasse', with a stylized flourish at the end.

Ricardo A. Ducasse